

5

$$\text{R}^6\text{--O--}\overset{\overset{\text{O}}{\parallel}}{\text{C}}\text{--}\underset{\underset{(\text{SH})_u}{|}}{\text{R}^5}\text{--}\overset{\overset{\text{O}}{\parallel}}{\text{C}}\text{--O--R}^7$$

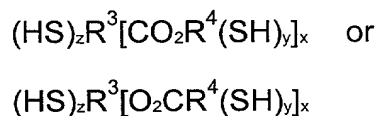
wherein, independently, R<sup>5</sup>, R<sup>6</sup>, and R<sup>7</sup> comprise straight chain or branched aliphatics having from 1 to about 20 carbon atoms, and wherein, u is from 1 to about 20.

2. An organic thiol compound according to claim 1, wherein R<sup>6</sup> and R<sup>7</sup>, independently, are 2-ethylhexyl, R<sup>5</sup> is 1,2-ethylidene, and u is 1.

3. An organic thiol compound according to claim 1, wherein R<sup>5</sup> comprises 1 to 10 carbon atoms.

a chlorine-containing or bromine-containing polymer; and

an organic thiol compound having the formula:

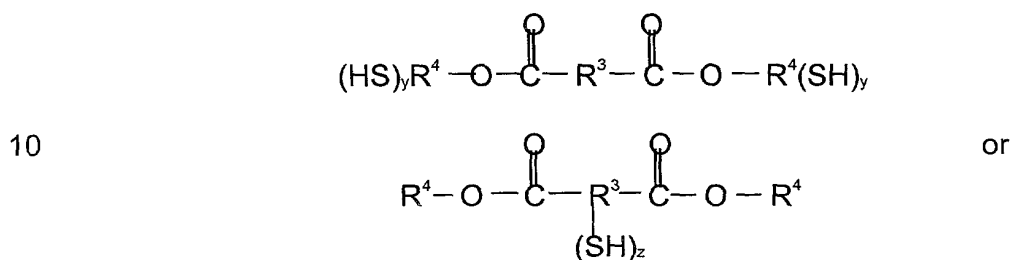


wherein R<sup>3</sup> and each R<sup>4</sup>, independently, comprise straight chain or branched aliphatics having from 1 to about 20 carbon atoms, and wherein, independently, y is either 0 or an integer up to about 10, z is either 0 or an

integer up to about 10, and x is either 1 or an integer up to about 10, said organic thiol compound being present in an amount from about 1 to about 100 parts per 100 parts by weight of said polymer, and said composition being substantially free of a metal-based stabilizer.

5

5. A polymer composition according to claim 4, wherein said organic thiol compound has the formula:

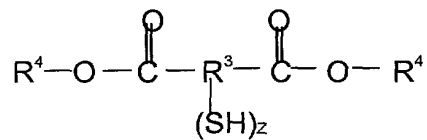


wherein each  $\text{R}^3$  and  $\text{R}^4$ , independently, can be a straight chain or branched aliphatic having from 1 to about 10 carbon atoms, and y and z, independently, are an integer from 1 to about 10.

15

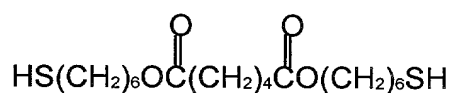
6. A polymer composition according to claim 5, wherein said organic thiol compound is:

20

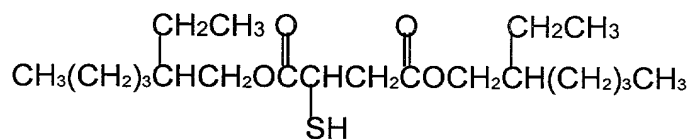


wherein each  $R^3$  and  $R^4$ , independently, can be 2-ethylhexyl, methyl, methylene, ethyl, ethylidene, propyl, propylidene, butyl, butylidene, hexyl, hexylidene, decyl, or decylidene, and wherein  $z$  is 1.

- 5                    7. A polymer composition according to claim 5, wherein said organic thiol compound is:



- 10                    8. A polymer composition according to claim 6, wherein said organic thiol compound is:



- 15                    9. A polymer composition according to claim 4, wherein said polymer is poly(vinyl chloride), poly(vinylidene chloride), poly(vinyl bromide), poly(vinylidene bromide), chlorinated poly(vinyl chloride), chlorinated polyethylene, chlorinated natural or synthetic rubber, polychloroprene, rubber hydrochloride, chlorinated polystyrene, or copolymers thereof, or combinations thereof.
- 20

10. A composition according to claim 4, wherein said composition contains about 2 parts by weight or less of a metal-based stabilizer per 100 parts by weight of said of at least one halogen-containing polymer.

5           11. A composition according to claim 4, wherein said composition contains about 0.5 part by weight or less of a metal-based stabilizer per 100 parts by weight of said of at least one halogen-containing polymer.

10           12. A composition according to claim 5, wherein the amount of said organic thiol is from 1 to about 50 parts by weight per 100 parts by weight of said polymer.

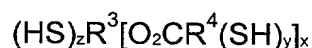
15           13. A composition according to claim 5, wherein the amount of said organic thiol is from about 50 to about 100 parts by weight per 100 parts by weight of said polymer.

20           14. A composition according to claim 4, wherein said composition further comprises a non-heavy-metal-containing HCl scavenger in an amount from about 1 to about 30 parts by weight per 100 parts by weight of said polymer.

15           15. A composition according to claim 14, wherein said scavenger is epoxidized soybean oil.

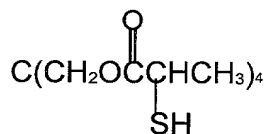
16. A composition according to claim 5, wherein said composition further comprises a non-metallic HCl scavenger in an amount from about 1 to about 30 parts by weight per 100 parts by weight of said polymer.

17. A polymer composition according to claim 4, wherein said organic thiol compound has the formula:

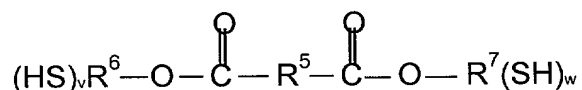


wherein  $\text{R}^3$  and each  $\text{R}^4$ , independently, comprise straight chain or branched aliphatics having from 1 to about 20 carbon atoms, and wherein, independently,  $y$  is either 0 or an integer up to about 10,  $z$  is either 0 or an integer up to about 10, and  $x$  is either 1 or an integer up to about 10, said organic thiol compound being present in an amount from about 1 to about 100 parts per 100 parts by weight of said polymer, and said composition being substantially free of a metal-based stabilizer.

18. A polymer composition according to claim 17, wherein said organic thiol compound is:



19. An organic thiol compound having a formula comprising:



5                    wherein, independently,  $\text{R}^5$ ,  $\text{R}^6$ , and  $\text{R}^7$  comprise straight chain or branched aliphatics having from 1 to about 20 carbon atoms, and wherein  $v$  and  $w$ , independently, are from about 1 to about 10.

10                    20. An organic thiol compound according to claim 19, wherein  $\text{R}^5$ ,  $\text{R}^6$ , and  $\text{R}^7$ , independently, are straight chain or branched aliphatics having from about 2 to about 10 carbon atoms, and wherein  $v$  and  $w$  are 1.

15                    21. An organic thiol compound according to claim 20, wherein  $\text{R}^5$  is 1,4 butylidene, and wherein  $\text{R}^6$  and  $\text{R}^7$  are hexyl.

22. An organic thiol compound according to claim 19, wherein said compound is the reaction product of:

- a) adipic acid; and
- b) 6-mercapto-1-hexanol.

20